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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,122	03/02/2004	Edward H. Arnold	GPI-105US	2660

7590 11/28/2006

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EXAMINER	
FANTU, YALKEW	

ART UNIT	PAPER NUMBER
2838	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/791,122	ARNOLD ET AL.	
	Examiner	Art Unit	
	Yalkew Fantu	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *13-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/27/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election with traverse described in invention II (claims 21-24), in the reply filed on 09-28-2006 is acknowledged. The traversal is on the ground(s) that the computer readable carrier described in invention I (claims 13-20) is an invention that is inseparable from the invention II (claim 21-24). This is not found persuasive because contrary to applicants' remarks, the two inventions are mutually exclusive since the medium operates without the electronic device elements, and they are not capable of use together as one replaces the other, so that the mode of operation, software versus hardware, is different. In addition to that a search for and application of prior art to the various species is a burden on the office. Claims 1-12 are generic to the above, which are also related as species and will be examined with the elected invention. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ostergaard et al (US 5,994,878).

With respect to claims 1 and 21, Ostergaard et al (hereinafter Ostergaard) discloses an electronic device (fig. 1) comprising; a battery (fig. 1, 11) having an

internal resistance (fig. 1, 12) and external resistance (fig. 1, 14) connected to the battery 11; and a processor 45, the processor controlling an electrical energy sources 46 for applying electrical energy to the battery 11; and the processor 45 adjusting, after each of a plurality of predetermined intervals 9fig. 10, phase I, II, III), the electrical energy applied to the battery 11 based on at least one of the internal resistance 12 of the battery and the external resistance 14 connected to the battery 11; and a method of charging the battery met by the operation of this electronic device (fig. 1).

Regarding claims 2 and 22, Ostergaard discloses determining at least one of (a) the internal resistance (12) of the battery (11), and (b) the external resistance (14) connected to the battery (11).

With respect to claim 3, Ostergaard discloses determining a voltage drop (col. 2, lines 39-42) associated with at least one of (a) the internal resistance 12 of the battery 11, and (b) the external resistance 14 connected to the battery.

Regarding claim 4, Ostergaard discloses that the determining steps (col. 5, lines 50-58) occur when the battery is substantially neither charging nor discharging (col.5, line 53; during turned off for short time interval).

With respect to claims 5 and 23, Ostergaard discloses additional steps of: (a) applying the electrical energy to the battery (fig. 1, 56; charging) for a predetermined charging time period (col. 7, lines 10-12; fig. 2, 68); (b) applying a discharge pulse to the battery for a predetermined discharging time period (col. 7, lines 12-14; fig. 2, 67); (c) providing a predetermined rest period during which neither the electrical energy nor the discharge pulse is applied to the battery, and

during which the determining step takes place (col. 5, lines 50-58) ; and repeating steps a-c(The microprocessor, 45, is capable of repeating the steps).

Regarding claim 6, Ostergaard discloses a protective device (fig. 1, 20; fig. 2, 60) is connected to the battery fig. 1, 11 and the determining step includes determining a voltage drop across the protective device (col. 6, lines 2-4).

Regarding claim 7, Ostergaard discloses the battery 11 is comprised of at least one of a terminal resistance 12 and a lead resistance 14 and the determining step includes determining a voltage drop across at least one of the terminal resistance and the lead resistance (see col. 6, lines 1-8).

With respect to claims 8 and 24, Ostergaard discloses a charging period (fig. 8, 151) and a non-charging period (fig. 8, 150; see also col. 14, lines 61-64) comprising the additional steps of: (a) measuring the voltage of the battery during the non-charging period (fig. 7, 130 and 141); and (b) measuring the voltage of the battery during the charging period (fig. 7, 131), the electrical energy being adjusted during the adjusting step based on a difference between the voltage measured during step (a) and the voltage measured during step (b) (fig. 8, 152 and 153).

With respect to claim 9, Ostergaard discloses a charging period (fig. 7; col. 16, 1-3) and a non-charging period (fig. 7, 130) comprising the additional steps of: (a) determining if the battery voltage during the non-charging period is greater than or equal to a predetermined threshold voltage level (col. 17, 17-21); and (b) terminating a constant current portion of a charging cycle (fig. 10, phase II) if the

battery voltage during the non-charging period is greater than or equal to the threshold voltage level (col. 10, lines 30-37).

With respect to claim 10, Ostergaard discloses (a) determining if a charging current being applied to the battery is greater than a predetermined current level (col. 16, lines 16-17) during a constant current phase of a charging cycle (fig. 10, phase I) of the battery; (b) decreasing the charging current (fig. 11, 166) if it is determined to be above the predetermined current level (fig. 11, 165); and (c) increasing the charging current (fig. 11, 164) if it is determined to be below the predetermined current level (fig. 11, 163).

Regarding claim 11, Ostergaard discloses (a) determining if a charging current being applied to the battery is below a predetermined current level during a constant voltage phase of a charging cycle of the battery (fig. 11, 162); and (b) terminating the constant voltage phase of the charging cycle if the charging current being applied to the battery is below the predetermined current level (col. 15, lines 47-49).

With respect to claim 12, Ostergaard discloses that the adjusting step includes adjusting the duration of a pulse of the electrical energy applied to the battery (see col. 5, lines 47-50).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yalkew Fantu whose telephone number is 571-272-8928. The examiner can normally be reached on M - F: 7- 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on 571-272-1989. The

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KARL EASTHOM
SUPERVISORY PATENT EX...